

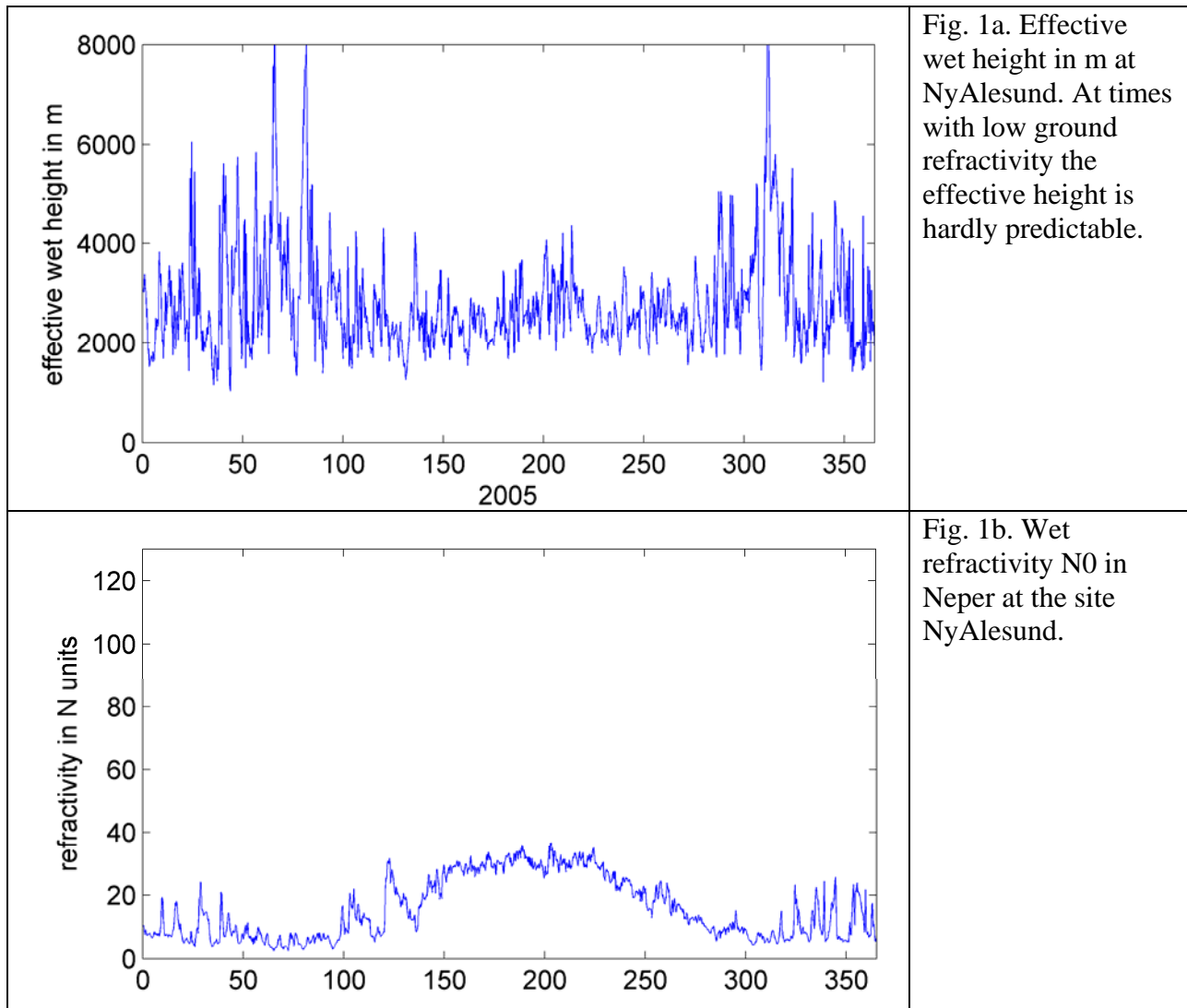
14 January 2008
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Memo: 'Effective wet height' and wind speed from 6 hourly ECMWF data in 2005

I retrieved operational pressure level data from the ECMWF at two sites (NyAlesund and Tahiti) for the year 2005 with a time resolution of 6 hours.

The 'effective wet height' is determined in the following way: I determined the wet refractivity at the site (N0), and I integrated over the wet refractivity with height (wet zenith delay). The 'effective wet height' is then the ratio of the wet zenith delay by the wet ground refractivity. I had the impression that this approach is more stable then fitting an exponential function to the wet refractivity, especially for dry sites.

However, even this approach gets rather unstable for low wet refractivity (e.g. NyAlesund in winter, cf. Figure 1).



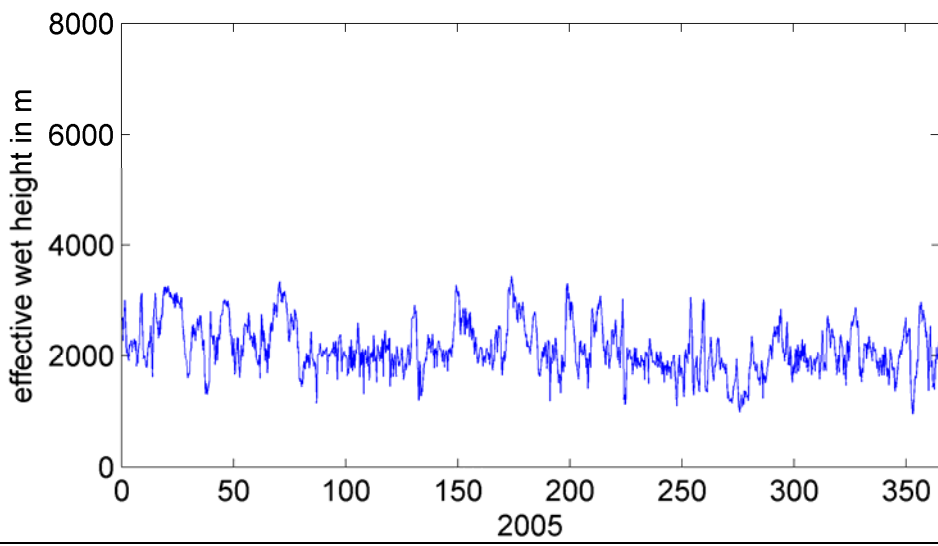


Fig. 2a. Effective wet height in m at Tahiti.

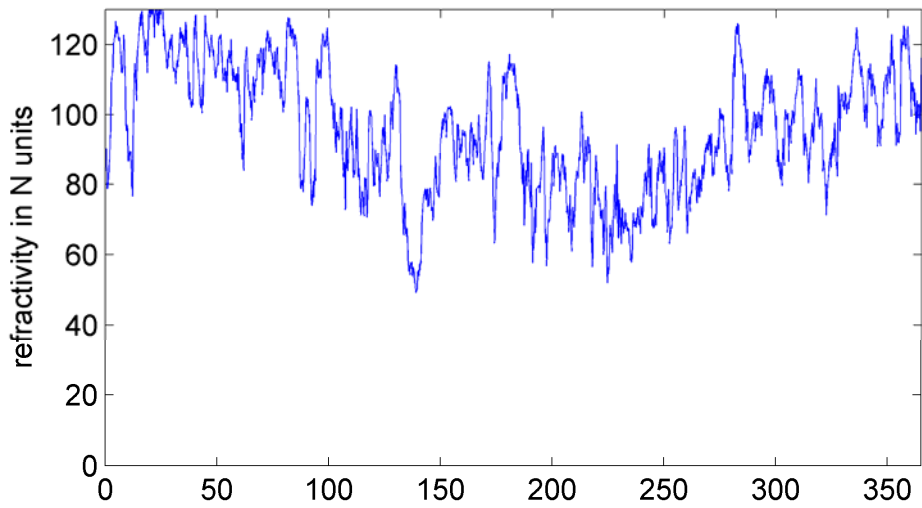


Fig. 2b. Wet refractivity N_0 in Neper at the site Tahiti.

Figures 3 and 4 show the wind speeds in Eastern and Northern direction at 700, 850 and 925 hPa at the stations NyAlesund and Tahiti respectively.

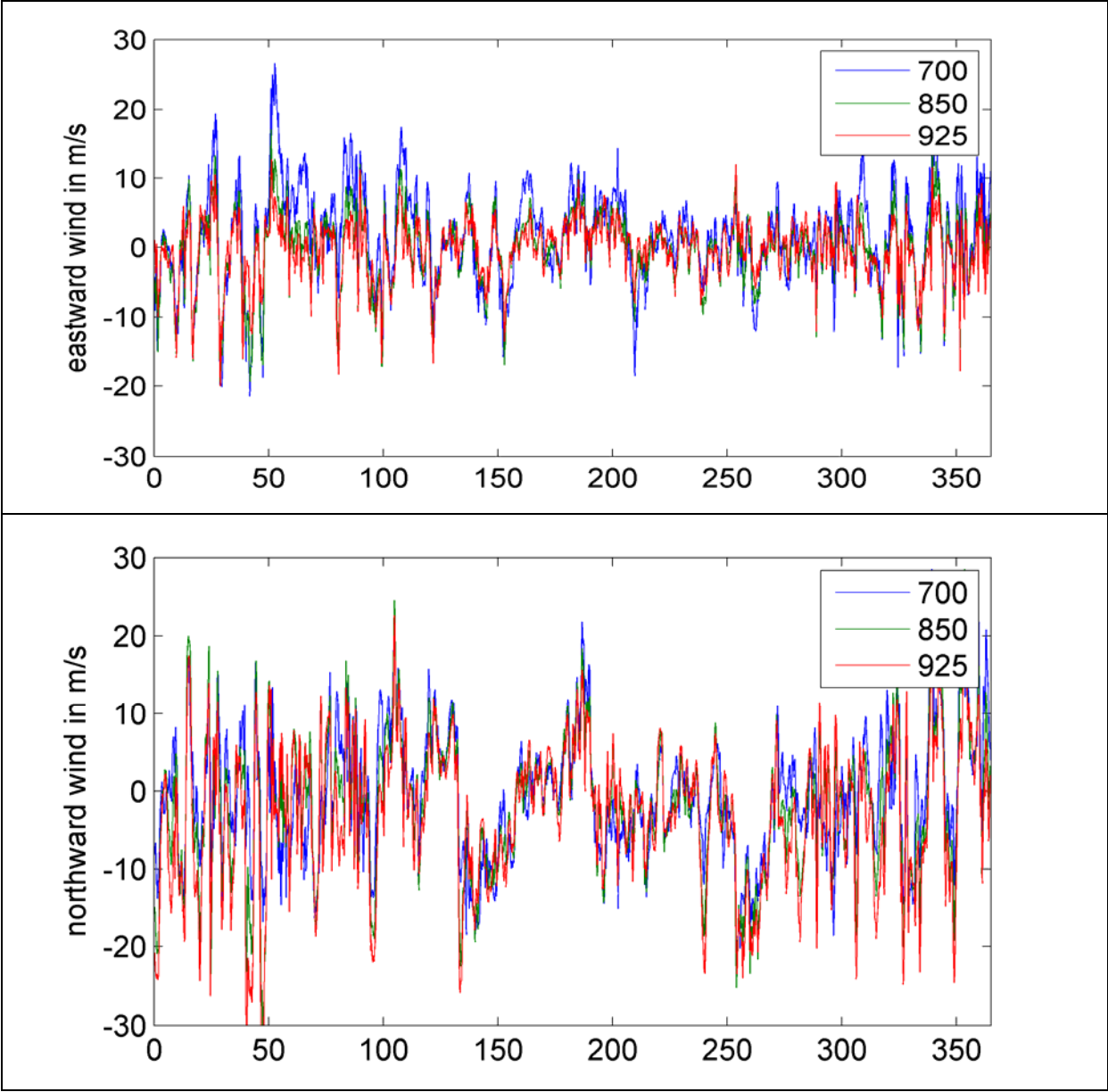


Fig. 3. Wind speed NyAlesund.

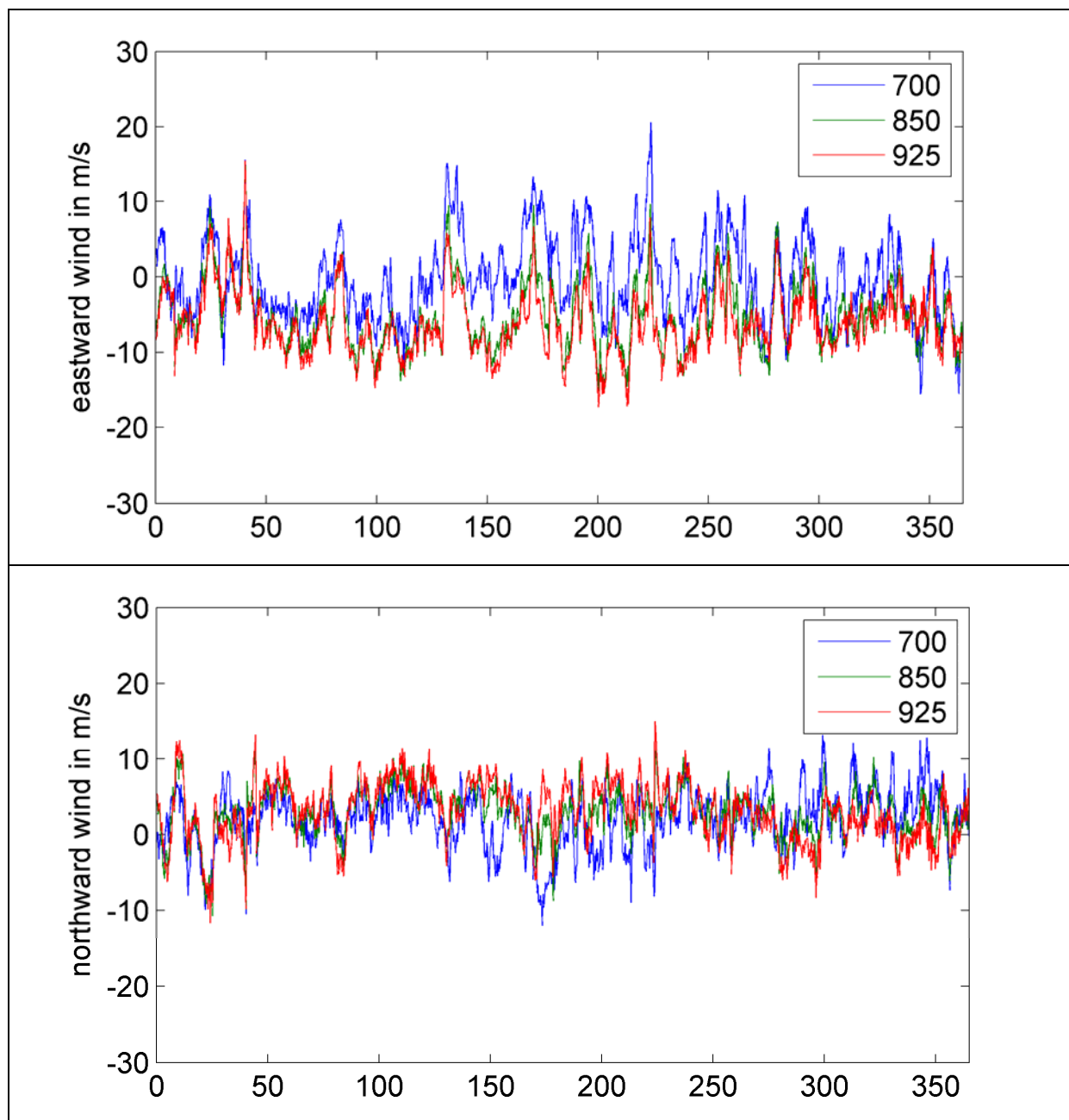


Fig. 4. Wind speed Tahiti.